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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,516	09/15/2003	Shenshen Wu	20002.0024A	7840

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EXAMINER

HUNTER, ALVIN A

ART UNIT	PAPER NUMBER
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3711

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/661,516

Applicant(s)

WU ET AL.

Examiner

Alvin A. Hunter

Art Unit

3711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7,9,17,19,29,30 and 48-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7,9,17,19,29,30 and 48-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the isocyanate-containing component" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4, 5, 7, 17, and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kennedy et al. (USPN 6290614).

In regards to claim 1, Kennedy et al. discloses a method for forming golf equipment, or a portion thereof in which comprises (a) providing a first reactable component comprising an isocyanate-containing compound and a second reactable component comprising at least one of a polyol, polyamine, or epoxy-containing

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compound; (b) combining the reactable components together to form a reactive mixture', and injecting the reactive mixture into a mold having a desired shape within about 60 seconds after the combining step to avoid substantial solidification (See Paragraph bridging Columns 4 and 5).

In regards to claim 4, Kennedy et al. implies the use of other types of diisocyanates (See Column 8, lines 7 through 24). Therefore, the type of isocyanate containing component is not critical to attain the invention, and one having ordinary skill in the art would have found it obvious to use any type of isocyanate containing component so long as it produces polyurethane.

In regards to claim 5, Kennedy et al. discloses the golf equipment being a golf ball.

In regards to claim 7, Kennedy et al. shows the golf ball comprised of a solid center, optionally at least one intermediate layer disposed about the center, and at least one cover layer disposed about the center and the optional intermediate layer (See Figure 1).

In regards to claim 17, Kennedy et al. discloses the gelation time of the reactive mixture being less than 30 seconds (See Paragraph bridging Columns 4 and 5).

In regards to claim 19, Kennedy et al. the first and second reactable components have a viscosity of less than about 20,000 cps at a temperature at which the reactable components are combined (See Paragraph bridging Columns 4 and 5)..

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy et al. (USPN 6290614) in view of Ichikawa et al. (USPN 6582325).

In regards to claim 2, Kennedy et al. does not disclose the isocyanate-containing compound comprising a reaction product of a polyol and at least one polyisocyanate. Ichikawa et al. discloses an isocyanate-containing component having a reaction product of a polyol and a polyisocyanate (See Abstract). One having ordinary skill in the art would have found it obvious to incorporate an isocyanate-containing component having a reaction product of a polyol and a polyisocyanate into Kennedy et al., as taught by Ichikawa et al., in order to obtain a more resilience for the golf ball.

4. Claims 30 and 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy et al. (USPN 6290614).

In regards to claims 30 and 55, Kennedy et al. discloses a method for forming golf equipment, or a portion thereof in which comprises (a) providing a first reactable component comprising an isocyanate-containing compound and a second reactable component comprising at least one of a polyol, polyamine, or epoxy-containing compound; (b) combining the reactable components together to form a reactive mixture', and injecting the reactive mixture into a mold having a desired shape within about 60 seconds after the combining step to avoid substantial solidification (See

Columns 4 and 5). Kennedy et al. does not explicitly disclose the amount of hard segment and soft segment to the total weight of the polymer, but one having ordinary skill in the art would have sought each the hard segment (isocyanate containing component) and the soft segment (polyol) to be of any percentage of the total weight of the polymer and would have been obvious.

In regards to claims 56 and 57, Kennedy et al. does not explicitly disclose the amount of hard segment and soft segment to the total weight of the polymer, but one having ordinary skill in the art would have sought each the hard segment (isocyanate containing component) and the soft segment (polyol) to be of any percentage of the total weight of the polymer and would have also found the ratio between the components to be obvious base upon the percentage of the components.

5. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy et al. (USPN 6290614) in view of Bock et al. (USPN 4288586).

In regards to claim 54, Kennedy et al. does not disclose the first reactable component comprising greater than about 14% by weight isocyanate groups. Bock et al. discloses a first reactable component, in particular a polyisocyanate, having greater than 14% by weight isocyanate groups (See Column 6, lines 5 through 14). One having ordinary skill in the art would have found it obvious to have greater than 14% by weight of isocyanate groups, as taught by Bock et al., in order to more easily process polyurethane.

6. Claims 29 and 48-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy et al. (USPN 6290614) in view of Peter (USPN 6174984).

In regards to claim 29, Kennedy et al. discloses a method for forming golf equipment, or a portion thereof in which comprises (a) providing a first reactable component comprising an isocyanate-containing compound and a second reactable component comprising at least one of a polyol, polyamine, or epoxy-containing compound; (b) combining the reactable components together to form a reactive mixture', and injecting the reactive mixture into a mold having a desired shape within about 60 seconds after the combining step to avoid substantial solidification (See Column 33, lines 3 through 53). Kennedy et al. does not disclose a low free isocyanate monomer. Peter discloses a polyurethane composition being reactable with a low free isocyanate monomer (See Column 4, lines 4 through 25). One having ordinary skill in the art would have found it obvious to incorporate a low free isocyanate monomer into the polyurethane composition of Kennedy et al., as taught by Peter, for economical purposes.

In regards to claim 48, Kennedy et al. inherently discloses the second reactable component having a molecular weight of about 400/gmol or greater being that the second reactable component is the same as that claimed by the applicant.

In regards to claim 49, Kennedy et al. discloses the solidification time of the reactive mixture being less than 30 seconds (See Paragraph bridging Columns 4 and 5).

In regards to claim 50, Applicant does not disclose why it is critical for the first and second reactable components each to have a viscosity of about 15000cps or less in order to attain the invention; therefore, one having ordinary skill in the art would sought

that Kennedy et al. inherently teaches the first and second reactable components meeting the viscosity requirements of claim 50.

In regards to claim 51, Kennedy et al. discloses the step of injecting comprising of injecting the reactive mixture into the mold at a pressure of about 1500 to 3000 psi (See Column 4, lines 39 through 63).

In regards to claim 52, Kennedy et al. discloses the step of injecting being liquid injection molding (See Column 4, lines 39 through 63).

In regards to claim 53, Peter discloses a first reactable component comprising less than about 0.1% free isocyanate containing monomer groups (See Column 5, lines 42 through 44).

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy et al. (USPN 6290614) in view of Sullivan et al. (USPN 6213895).

Kennedy et al. discloses the polyurethane cover having a hardness of 10 to 95 Shore D but does not disclose having a layer immediately inside of the cover layer having a hardness of up to 55 Shore D (See Summary of the Invention). Sullivan et al. discloses a golf ball having a layer immediately disposed inside of the cover made of a second material, i.e. ionomer, having a Shore D hardness of less than 65 (See Abstract and Figure 3). One having ordinary skill in the art would have found it obvious to having the layer immediately disposed inside of the cover made of a second material, i.e. ionomer, having a Shore D hardness of less than 55, as taught by Sullivan et al., in order to enhance the distance and durability of the golf ball.

### ***Conclusion***




Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alvin A. Hunter whose telephone number is 703-306-5693. The examiner can normally be reached on Monday through Friday from 7:30AM to 4:00PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Vidovich, can be reached on 703-308-1513. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AAH

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